AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1   1.   (Currently amended) A method for manipulating a window within
2   a three-dimensional (3D) display model, comprising:
3   receiving an input from a 2D pointing device, wherein the input specifies a
4   2D offset within a 2D display, wherein the 2D display provides a view into the 3D
5   display model;
6   using the 2D offset to move a cursor to a position in the 2D display;
7   determining if the cursor overlaps a window within the 3D display model
8   by projecting a ray from a predefined viewpoint in the 3D display model through
9   the cursor, which is located in a rectangle representing the 2D display in the 3D
10   display model, toward one or more windows in the 3D display model and
11   determining if the ray intersects a window;
12   if the cursor overlaps a window,
13   determining a 2D position of the cursor with respect to a
14   2D coordinate system for the window, and
15   communicating the 2D position to an application associated
16   with the window to enable a user of the 2D pointing device to
17   interact with the application; and
18   displaying the window as a 3D object; wherein when the window is
19   rotated, a spine located on a side edge of the window becomes visible, wherein the
20   spine contains a title for the same window, and wherein the thickness of the spine
21   is significantly less than the dimension of the window.

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1   2.   (Cancelled)

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1   3.   (Original) The method of claim 2, wherein determining the 2D

2   position of the cursor with respect to the 2D coordinate system of the window

3   involves:

4   determining a 3D position where the ray intersects the window within the

5   3D display model; and

6   transforming the 3D position in the 3D display model into a 2D position

7   with respect to the 2D coordinate system for the window based upon the size,

8   position and orientation of the window within the 3D display model.

1   4.   (Original) The method of claim 3, wherein the size, position and

2   orientation of the window within the 3D display model are specified by a number

3   of attributes of the window, including:

4   a height;

5   a width;

6   an x-position;

7   a y-position;

8   a z- position;

9   a first rotation around a vertical axis of the window; and

10   a second rotation around a horizontal axis of the window.

1   5.   (Original) The method of claim 1, further comprising:

2   receiving a second input from the 2D pointing device; and

3

3   in response to the second input, changing a viewing angle for the 3D

4   display model by rotating objects within the 3D display model around a

5   predefined viewpoint.

1   6.   (Original) The method of claim 1, wherein if the cursor overlaps a

2   given window, the given window becomes a selected window and appears opaque

3   while other windows within the 3D display model appear translucent.

1   7.   (Original) The method of claim 1, wherein if a command is

2   received to minimize a window, the window minimization operation is illustrated

3   as an animation that moves the window toward a minimized position near a

4   border of the 2D display while reducing the size of the window to its minimized

5   size.

1   8.   (Original) The method of claim 1, wherein if a command is

2   received to close a window, the window closing operation is illustrated as an

3   animation that throws the window away by moving the window toward the

4   background of the 3D display model and causing the window to fade away.

1   9.   (Original) The method of claim 1, wherein if a command is

2   received to rotate all windows in the 3D display model, the method further

3   comprises rotating all windows in the 3D display model, so that windows are

4   viewed from an oblique angle through the 2D display, whereby the contents of the

5   windows remain visible, while the windows occupy less space in the 2D display

6   and are less likely to overlap each other.

1   10.   (Cancelled)

1   11.   (Original) The method of claim 9, wherein when a user selects one

2   of the rotated windows, the method further comprises:

3   moving the selected window in front of the other windows;

4   unrotating the selected window so it faces the user; and

5   moving the other windows back to their original positions and

6   orientations.

1   12.   (Original) The method of claim 1, wherein the 2D pointing device

2   can include:

3   a mouse;

4   a track ball;

5   a joystick; and

6   a glide point.

1   13.   (Currently amended) A computer-readable storage medium storing

2   instructions that when executed by a computer cause the computer to perform a

3   method for manipulating a two-dimensional (2D) window within a three-

4   dimensional (3D) display model, the method comprising:

5   receiving an input from a 2D pointing device, wherein the input specifies a

6   2D offset within a 2D display, wherein the 2D display provides a view into the 3D

7   display model;

8   using the 2D offset to move a cursor to a position in the 2D display;

9   determining if the cursor overlaps a window within the 3D display model

10   by projecting a ray from a predefined viewpoint in the 3D display model through

11   the cursor, which is located in a rectangle representing the 2D display in the 3D

12   display model, toward one or more windows in the 3D display model and

13   determining if the ray intersects a window;

14   if the cursor overlaps a window,

15	determining a 2D position of the cursor with respect to a
16	2D coordinate system for the window, and
17	communicating the 2D position to an application associated
18	with the window to enable a user of the 2D pointing device to
19	interact with the application; and
20	displaying the window as a 3D object; wherein when the window is
21	rotated, a spine located on a side edge of the window becomes visible, wherein the
22	spine contains a title for the same window, and wherein the thickness of the spine
23	is significantly less than the dimension of the window.

1	14.	(Cancelled)

1	15.	(Original) The computer-readable storage medium of claim 14,
2	wherein determining the 2D position of the cursor with respect to the 2D	
3	coordinate system of the window involves:	
4	determining a 3D position where the ray intersects the window within the	
5	3D display model; and	
6	transforming the 3D position in the 3D display model into a 2D position	
7	with respect to the 2D coordinate system for the window based upon the size,	
8	position and orientation of the window within the 3D display model.	

1	16.	(Original) The computer-readable storage medium of claim 15,
2	wherein the size, position and orientation of the window within the 3D display	
3	model are specified by a number of attributes of the window, including:	
4	a height;	
5	a width;	
6	an x-position;	
7	a y-position;	

8   a *z*- position;

9   a first rotation around a vertical axis of the window; and

10   a second rotation around a horizontal axis of the window.

1   17.   (Original) The computer-readable storage medium of claim 13,

2   wherein the method further comprises:

3   receiving a second input from the 2D pointing device; and

4   in response to the second input, changing a viewing angle for the 3D

5   display model by rotating objects within the 3D display model around a

6   predefined viewpoint.

1   18.   (Original) The computer-readable storage medium of claim 13,

2   wherein if the cursor overlaps a given window, the given window becomes a

3   selected window and appears opaque while other windows within the 3D display

4   model appear translucent.

1   19.   (Original) The computer-readable storage medium of claim 13,

2   wherein if a command is received to minimize a window, the window

3   minimization operation is illustrated as an animation that moves the window

4   toward a minimized position near a border of the 2D display while reducing the

5   size of the window to its minimized size.

1   20.   (Original) The computer-readable storage medium of claim 13,

2   wherein if a command is received to close a window, the window closing

3   operation is illustrated as an animation that throws the window away by moving

4   the window toward the background of the 3D display model and causing the

5   window to fade away.

1   21.   (Original) The computer-readable storage medium of claim 13,
2   wherein if a command is received to rotate all windows in the 3D display model,
3   the method further comprises rotating all windows in the 3D display model, so
4   that windows are viewed from an oblique angle, whereby the contents of the
5   windows remain visible, while the windows occupy less space in the 2D display
6   and are less likely to overlap each other.

1   22.   (Cancelled)

1   23.   (Original) The computer-readable storage medium of claim 21,
2   wherein when a user selects one of the rotated windows, the method further
3   comprises:
4   moving the selected window in front of the other windows;
5   unrotating the selected window so it faces the user; and
6   moving the other windows back to their original positions and
7   orientations.

1   24.   (Original) The computer-readable storage medium of claim 13,
2   wherein the 2D pointing device can include:
3   a mouse;
4   a track ball;
5   a joystick; and
6   a glide point.

1   25.   (Currently amended) An apparatus that manipulates a two-
2   dimensional (2D) window within a three-dimensional (3D) display model,
3   comprising:

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4   an input mechanism configured to receive an input from a 2D pointing

5   device, wherein the input specifies a 2D offset within a 2D display, wherein the

6   2D display provides a view into the 3D display model;

7   a cursor mechanism configured to use the 2D offset to move a cursor to a

8   position in the 2D display;

9   a window manipulation mechanism configured to determine if the cursor

10   overlaps a window within the 3D display model by projecting a ray from a

11   predefined viewpoint in the 3D display model through the cursor, which is located

12   in a rectangle representing the 2D display in the 3D display model, toward one or

13   more windows in the 3D display model and determining if the ray intersects a

14   window;

15   wherein if the cursor overlaps a window, the window manipulation

16   mechanism is configured to,

17   determine a 2D position of the cursor with respect to a 2D

18   coordinate system for the window, and to

19   communicate the 2D position to an application associated

20   with the window to enable a user of the 2D pointing device to

21   interact with the application; and

22   a display mechanism configured to display the window as a 3D object;

23   wherein when the window is rotated, a spine located on a side edge of the window

24   becomes visible, wherein the spine contains a title for the same window, and

25   wherein the thickness of the spine is significantly less than the dimension of the

26   window.

1   26.   (Cancelled)

1   27. (Original) The apparatus of claim 26, wherein while determining

2 the 2D position of the cursor with respect to the 2D coordinate system of the

3 window, the window manipulation mechanism is configured to:

4   determine a 3D position where the ray intersects the window within the 3D

5 display model; and to

6   transform the 3D position in the 3D display model into a 2D position with

7 respect to the 2D coordinate system for the window based upon the size, position

8 and orientation of the window within the 3D display model.

1   28. (Original) The apparatus of claim 27, wherein the size, position

2 and orientation of the window within the 3D display model are specified by a

3 number of attributes of the window, including:

4   a height;

5   a width;

6   an x-position;

7   a y-position;

8   a z- position;

9   a first rotation around a vertical axis of the window; and

10   a second rotation around a horizontal axis of the window.

1   29. (Original) The apparatus of claim 25, further comprising a viewing

2 angle changing mechanism configured to:

3   receive a second input from the 2D pointing device; and

4   in response to the second input, to change a viewing angle for the 3D

5 display model by rotating objects within the 3D display model around a

6 predefined viewpoint.

1   30.   (Original) The apparatus of claim 25, wherein if the cursor
2 overlaps a given window, the window manipulation mechanism is configured to
3 make the given a selected window that appears opaque while other windows
4 within the 3D display model appear translucent.

1   31.   (Original) The apparatus of claim 25, wherein if a command is
2 received to minimize a window, the window manipulation mechanism is
3 configured to illustrate the minimization operation as an animation that moves the
4 window toward a minimized position near a border of the 2D display while
5 reducing the size of the window to its minimized size.

1   32.   (Original) The apparatus of claim 25, wherein if a command is
2 received to close a window, the window manipulation mechanism is configured to
3 illustrate the window closing operation as an animation that throws the window
4 away by moving the window toward the background of the 3D display model and
5 causing the window to fade away.

1   33.   (Original) The apparatus of claim 25, wherein if a command is
2 received to rotate all windows in the 3D display model, the window manipulation
3 mechanism is configured to rotate all windows in the 3D display model, so that
4 windows are viewed from an oblique angle through the 2D display, whereby the
5 contents of the windows remain visible, while the windows occupy less space in
6 the 2D display and are less likely to overlap each other.

1   34.   (Cancelled)

1   35.   (Original) The apparatus of claim 33, wherein when a user selects

2   one of the rotated windows, the window manipulation mechanism is configured

3   to:

4   move the selected window in front of the other windows;

5   unrotate the selected window so it faces the user; and to

6   move the other windows back to their original positions and orientations.

1   36.   (Original) The apparatus of claim 25, wherein the 2D pointing

2   device can include:

3   a mouse;

4   a track ball;

5   a joystick; and

6   a glide point.

1   37.   (Currently amended) A means for manipulating a two-dimensional

2   (2D) window within a three-dimensional (3D) display model, comprising:

3   an input means for receiving an input from a 2D pointing device, wherein

4   the input specifies a 2D offset within a 2D display, wherein the 2D display

5   provides a view into the 3D display model;

6   a cursor means configured to use the 2D offset to move a cursor to a

7   position in the 2D display;

8   a window manipulation means configured to determine if the cursor

9   overlaps a window within the 3D display model <u>by projecting a ray from a</u>

10   <u>predefined viewpoint in the 3D display model through the cursor, which is located</u>

11   <u>in a rectangle representing the 2D display in the 3D display model, toward one or</u>

12   <u>more windows in the 3D display model and determining if the ray intersects a</u>

13   <u>window;</u>

14   wherein if the cursor overlaps a window, the window manipulation means

15   is configured to,

16   determine a 2D position of the cursor with respect to a 2D

17   coordinate system for the window, and to

18   communicate the 2D position to an application associated

19   with the window to enable a user of the 2D pointing device to

20   interact with the application; and

21   a display means for displaying the window as a 3D object; wherein when

22   the window is rotated, a spine located on a side edge of the window becomes

23   visible, wherein the spine contains a title for the same window, and wherein the

24   thickness of the spine is significantly less than the dimension of the window.